



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,881	07/18/2003	Sunil G. Warrier	02-510	2745

34704 7590 10/19/2005  
BACHMAN & LAPOINTE, P.C.  
900 CHAPEL STREET  
SUITE 1201  
NEW HAVEN, CT 06510

EXAMINER

HODGE, ROBERT W

ART UNIT	PAPER NUMBER
----------	--------------

1746

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/622,881

Applicant(s)

WARRIER ET AL.

Examiner

Robert Hodge

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-22 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) 13-21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 9-12, 22 and 24-26 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's arguments, see Remarks/Arguments, filed 8/19/05, with respect to the rejection of claims 1-7, 9-12 and 22-26 under 35 U.S.C. 102(b) have been fully considered and are persuasive. The rejection of claims 1-7, 9-12 and 22-26 under 35 U.S.C. 102(b) has been withdrawn. Furthermore because claim 1 has been amended to remove the confusing subject matter the rejection of claim 1 under 35 U.S.C. 112, second paragraph is also withdrawn.
2. With respect to the objection of claim 26, the examiner is not persuaded by applicant's statement that because claim 24 recites a position of the compression stop that "claim 26 does indeed further limit the claim by stating the location". The purpose of dependent claims is to further limit the scope of the parent claim(s) and as so recited claim 26 does not further limit the structure of claim 24 and the objection will be maintained.
3. With respect to the rejection of claim 22 under 35 U.S.C. 112, second paragraph, applicant's arguments are not commensurate with the scope of the claim and therefore the rejection will be maintained. Applicant's definition of "mechanically compliant in the in-plane and out-of-plane directions" is not found in the specification, nor is it found in the claims, and if it were added to either the specification or the claim the issue of new matter would be raised.
4. The examiner acknowledges that claims 4 and 23 are now canceled.

***Claim Objections***

5. Claim 26 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

6. It is unclear in claim 26 how the term "compression stop is situated" further limits the structure set forth in claim 24 since all of the structural features are the same.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. It is unclear in claim 22 how "a compliant seal is mechanically compliant in both in-plane and out-of-plane directions relative to said surface." No clear definition is made in the claim and the specification is vague in supporting the above terminology. The examiner construes the above terms to mean that the seal has three-dimensions, which is inherent in all physical objects and therefore any seal member used in a fuel cell stack would read on the claim as so recited.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 9-12, 22 and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,139,810 hereinafter Gottzmann.

12. Gottzmann teaches a solid oxide fuel cell stack with at least two fuel cell components being a separator and a fuel cell, that are sealed with a continuous fiber tow wrapped into a closed loop structure (i.e. twisted rope seal) forming a substantially gas impermeable seal between the two components, wherein at least two fibers are in a substantially concentric relationship with each other, also comprising a compression stop extending from one of the fuel cell components that is frame like in shape as well as a groove to hold the seal member, with dimensions similar to those found in claim 12 and that said seal can be compressed (figures 1-4, and column 7, line 8 – column 10, line 35).

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 2, 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gottzmann in view of U.S. Patent No. 4,640,875 hereinafter Makiel.
15. Gottzmann teaches everything in the above 102 rejection.
16. Gottzmann does not teach the material composition of the seal.
17. Makiel teaches a seal for a solid oxide fuel cell situated substantially perpendicular between a separator and a fuel cell component, wherein the seal comprises an oxide ceramic, or an alumina fiber that are substantially continuous and concentric, wherein the fibers can be impregnated with Ni, Cr, and Fe. Makiel also teaches the use of a compression stop (or lip) and a groove (or lands) for said seal member as well as a frame used in the system near the seal (figures 1-5, column 1, line 54 – column 8, line 2 and claim 1).
18. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the teachings of the Makiel reference in the Gottzmann reference in order to provide a seal that is composed of well known materials that are resilient and durable and would not have to be replaced very often, which would require shutting down the fuel cell system.

***Allowable Subject Matter***

19. Claim 5 is allowed.
20. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 1746

21. The prior art made of record fails to teach fibers contained within the seal that are impregnated with silver oxide. Nor would a person of ordinary skill in the art be motivated to impregnate said fibers with silver oxide. The prior art does allow for impregnating the fibers with the above species in the above 102 rejection.

### ***Conclusion***

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

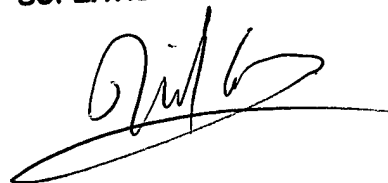
Art Unit: 1746

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RWH 10-14-05

**MICHAEL BARR**  
**SUPERVISORY PATENT EXAMINER**

A handwritten signature in black ink, appearing to read 'Michael Barr', with a long horizontal flourish extending to the left.